

one or more kinds of elements M selected from the element group of Al, B, Ga, Si, Ge, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W and Rh, whose whole content is not less than 1 atomic% and not more than 15 atomic%;

N whose content is not less than 0.5 atomic% and not more than 10 atomic%; and

O whose content is not less than 1.5 atomic% and not more than 22.5 atomic%;

wherein N, M and O are included in a crystal phase of which main component is Fe.

4. (Amended) A recording head which has a coil generating a predetermined magnetic field and a soft magnetic member magnetized by the magnetic field generated from the coil and which magnetizes an external medium by the magnetic field generated by the coil and transmitted by the soft magnetic member, characterized in that

said soft magnetic member is a polycrystalline film comprising:

Fe whose content is not less than 57.5 atomic% and not more than 94.5 atomic%;

one or more kinds of elements M selected from the element group of Al, B, Ga, Si, Ge, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W and Rh, whose whole content is not less than 1 atomic% and not more than 15 atomic%;

N whose content is not less than 0.5 atomic% and not more than 10 atomic%; and

B² O whose content is not less than 1.5 atomic% and not more than 22.5 atomic%,

wherein said soft magnetic member is a magnetic thin film in which N, M and O are included in a crystal phase of which main component is Fe.

B³ 8. [(Amended)] The magnetic thin film forming method according to claim 7, wherein during the formation of the magnetic thin film on said substrate, the temperature of said substrate is maintained at 200°C or less.

B⁴ 9. [(New)] The magnetic thin film according to claim 1, which substantially excludes a ceramics phase comprising one or more kinds of elements M selected from said element group and at least either N or O.

10. [(New)] The recording head according to claim 4, which substantially excludes a ceramics phase comprising one or more kinds of elements M selected from said element group and at least either N or O.
